

CHAPTER 1476

Storm Water and Sedimentation Management During and After Construction Activities

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1476.01 DEFINITIONS

All words used in this ordinance shall have their customary meanings as defined in Webster's New World Dictionary and/or Rainwater and Land Development¹, except those specifically defined in this Section.

(a) Approval Authority: an official, organization, or group designated to review and approve/disapprove Site Development Plans and Storm Water Management Plans.

(b) Authorized Agent: an official, organization, or group designated to provide technical guidance in the development and implementation of Site Development and Storm Water Management Plans and to review and approve/disapprove such plans as authorized.

(c) Buffer: A designated transition area around water resources or wetlands that is left in a natural, usually vegetated, state so as to protect the water resources or wetlands from runoff pollution. Construction activities in this area are restricted or prohibited.

(d) Critical Storm: A storm which is calculated by means of the percentage increase in volume of runoff for a one year storm event by a proposed earth disturbing activity or development area.

(e) Cut: an excavation. The difference between a point on the original grade and a designated point of lower elevation on the final grade.

(f) Detention basin: An impoundment area created by constructing an embankment, excavating a pit, or both, for the purpose of temporarily storing stormwater.

(g) Detention facility: A detention basin or alternative structure designed to temporarily store stormwater runoff and gradually release the stored water at a controlled rate.

(h) Development Area: any contiguous area owned by one person or operated as one development unit upon which earth-disturbing activities are planned or underway.

(i) Earth-Disturbing Activity: any grading, excavation, filling, or other alteration of the earth's surface where natural or man-made ground cover is destroyed

¹ Rainwater and Land Development: Ohio's Standards for Stormwater Management, Land Development and Urban Stream Protection. Second Edition, 1996. Ohio Department of Natural Resources, as amended.

(j) Fill: any act by which earth, sand, gravel, rock or any other material is placed, pushed, dumped, pulled, transported or moved to a new location above the natural surface of the ground or on top of the stripped surface and shall include the resulting grade conditions. The difference in elevation between a point on the original ground and a designated point of higher elevation on the final grade.

(k) Non-structural controls: stormwater runoff control and treatment techniques that use natural measures to control runoff and/or reduce pollution levels, and do not require extensive construction efforts and/or do promote runoff control and/or pollutant reduction by eliminating the runoff and/or pollutant source. Examples include minimizing impervious area, buffer strips along streams, and preserving natural vegetation.

(l) Parcel: any legally described piece of land created by a partition, subdivision, deed or other instrument recorded with the appropriate entity or agency.

(m) Peak Rate of Runoff - the maximum rate of runoff for any 24 hour storm of a given frequency.

(n) Pre-Development Conditions: site conditions as they existed prior to manmade alterations and/or earth disturbing activities.

(o) Sediment Basin: a barrier, dam or other facility built to reduce the velocity of water in order to settle and retain sediment.

(p) Site Development Plan: the written document or set of plans meeting the requirements of this ordinance that provides information on the location of the area proposed for development, the site in relation to its general surroundings, and existing characteristics of the site, including limits of earth disturbing activities.

(q) Steep Slope: a slope over eighteen percent (18%) grade, which is characterized by increased run-off, erosion, and sediment hazards.

(r) Stop-work order: An order issued by the City of Vandalia which requires that all work on the site must cease except work associated with bringing the site into compliance with the approved Storm Water Management Plan and Site Development Plan.

(s) Storm Water Management Plan (SMP): The written document meeting the requirements of this ordinance regulation that sets forth the plans and practices to be used to minimize storm water runoff from a site and to safely convey or temporarily store and release post-development storm water runoff at an allowable rate to minimize flooding and erosion.

(t) Storm Water Pollution Prevention Plan (SWP3): The document required by the Ohio EPA for compliance with its most recent version of the NPDES Construction Activity General Permit ~~#OHC000002~~. The requirements of the SWP3 are required as part of the local jurisdiction's Stormwater Management Plan as described above and in this regulation.

(u) Storm Frequency: the average period of time in years within which a storm of a given duration and intensity can be statistically expected to be equaled or exceeded.

(v) Structural controls: any human-made facility, structure, or device that is constructed to provide temporary storage and/or treatment of storm water runoff. Examples include retention and detention basins, rock check dams, swales, and constructed wetlands.

(w) Swale: a low lying stretch of vegetated land which gathers and carries surface water.

(x) Temporary vegetation: short term vegetative cover such as oats, rye, or wheat, used to stabilize the soil surface until final grading and installation of permanent vegetation.

(y) Watercourse: any natural or artificial waterway (including, but not limited to, streams, rivers, creeks, ditches, channels, canals, conduits, culverts, drains, waterways, gullies, ravines, or washes) in which waters flow in a definite direction or course either continuously or intermittently and including any area adjacent thereto which is subject to inundation by reason of overflow of flood water.

1476.02 INTENT & SCOPE

(a) The intent of this ordinance is to protect the land and water resources of the City of Vandalia by establishing standards to achieve a level of soil erosion and stormwater control that will minimize and abate degradation of land and water resources and damage to public and private property resulting from earth disturbing activities. In addition this regulation further intends to:

(1) assure that those involved in earth-disturbing activities control both sediment transport and the rate of storm water runoff from their sites.

(2) preserve, to the extent practicable, the natural drainage characteristics of the site and minimize the need to repair and replace enclosed subsurface storm drain systems.

(3) assure that storm water controls are incorporated into site planning and design at the earliest possible stage and that all stormwater management methods are properly designed, constructed, and maintained.

(4) reduce unnecessary stripping of vegetation and loss of soil and to require the prompt re-vegetation and stabilization of the site following earth disturbing activities.

(5) reduce the need for costly maintenance and repairs to roads, embankments, ditches, wetlands, and stormwater management devices and control measures.

(6) encourage the construction of stormwater management devices that serve multiple purposes such as flood control, erosion control, water quality protection, and habitat preservation.

(7) preserve to the maximum extent practicable natural infiltration and groundwater recharge.

(b) Any person or persons proposing to undertake an earth disturbing activity subject to regulation under this chapter or to develop or redevelop land within the City of Vandalia for any of the uses listed in Section 1476.02(c) shall design, develop, and submit a Site

Development Plan as described in Section 1476.04 and Storm Water Management Plan (SMP) described in Section 1476.05 to minimize these impacts unless exempted by section 1476.02(g).

(c) This ordinance shall apply to both the development and redevelopment of land proposed for the following:

- (1) Residential, institutional, commercial, office, and industrial purposes, including subdivision and land development proposals for non-agricultural uses
- (2) Recreational facilities, non-agricultural water impoundments and waterway construction or improvement.
- (3) Public infrastructure uses, including roadway utilities.
- (4) Any earth disturbing activity within critical and sensitive natural areas, including floodplains, highly erodible lands (HEL) and wetlands.

(d) This ordinance does not apply to earth disturbing activities associated with agricultural activities.

(e) Final approval of a proposed development or redevelopment shall not be given unless:

(1) a SDP is submitted in accordance with ~~1276.04~~1476.04 and approved by the City Engineer.

(2) a SMP as detailed in Section 1476.05 has been approved by the City Engineer of the City of Vandalia for projects disturbing 1.0 acre or more, demonstrating that the proposed earth disturbing activity will not result in accelerated rates of runoff beyond the provisions of this chapter, and/or sediment impacts harmful to the quality of off-site lands and waters.

(3) Exempt by 1476.02(g)

(f) Any person or persons seeking approval for an earth disturbing activity listed below shall prepare a SMP as described in Section 1476.05 of this ordinance.

- (1) Activities disturbing greater than or equal to one (1) acre. Activities on lots which are less than one (1) acre, but part of a larger development must comply with SMP specifications approved for the development
- (2) Activities disturbing one acre or greater that require the extension of public utilities (roadways, water mains, sanitary sewer mains, storm sewers, etc.).
- (3) Activities that will modify an existing and/or approved drainage way, drainage structure, and/or facility within a drainage easement.
- (4) Activities that will channelize, straighten, and/or modify a watercourse within the identified 100 year floodplain (studied and unstudied).

(g) Any person or persons seeking approval to construct a structure shall be exempted from having to prepare a Site Development Plan and a Storm Water Management Plan provided they meet all of the following:

- (1) Construction is residential in nature.
- (2) Construction activity complies with an approved SMP for the development within which the subject lot is located or does not affect more than 10,000 square feet of a lot including buildings, pavement, clearing, reclamation, and landscaping.
- (3) Is not located within 100 feet of a sensitive natural area as described in Section 1476.02c(4).
- (4) Earth disturbing activities will not modify the general existing site drainage pattern(s),
- (5) One or both of the following:
 - (i) Specifications are obtained and followed for controlling potential storm water and erosion impacts from small lot building sites set forth by the City of Vandalia.
 - (ii) The parcel is part of an overall development plan which has received approval of a SMP and the builder certifies that they will comply with said Plan.

(h) Exemption under section 1476.02(g) does not exempt any person or persons from other provisions of this ordinance or liability from their activities.

1476.03 PERFORMANCE STANDARDS

(a) All Erosion and Sediment Kept on Site

Erosion resulting in sediment transport caused by accelerated wind or stormwater runoff over the site due to earth disturbing activities shall be stabilized and confined to within the boundaries of the development site.

(b) Discharge of Untreated Stormwater.

To the maximum extent practicable the site shall not discharge untreated stormwater directly into a receiving body of water. Treatment shall consist of filtering and/or settlement utilizing BMP's as approved by the City Engineer.

(c) Structural and Nonstructural Best Management Practices

(1) Nonstructural storm water management practices shall be used to the maximum extent practicable. Such practices may include, but not be limited to, preserving riparian areas, preserving existing vegetation and vegetative buffer strips, phasing of construction, and designation of tree preservation areas.

(2) Nonstructural and structural stormwater management practices shall be designed in accordance with requirements and standards specified in this ordinance and/or by the City Engineer.

(3) Permanent structural and nonstructural stormwater management devices and facilities shall be placed in easements. Easements will be recorded by plat or by deed as applicable. All such devices and facilities shall remain unaltered unless first approved by the City of Vandalia Engineer. Easements shall be written granting rights for maintenance related activities to the persons or organization responsible for such maintenance. The easement(s) should also grant to the City of Vandalia the right to maintain and assess all costs to the responsible parties in the event such maintenance is not properly performed.

(4) In designing storm water detention and retention facilities, water quality benefits shall be considered to the maximum extent practicable.

(d) Stream and Wetland Riparian Buffers

The site owner and/or applicant shall leave an undisturbed riparian buffer on both sides of and/or surrounding water resources, except for crossings and other riparian area and wetland impacts approved by the City of Vandalia Engineer. Buffer width will be determined on a case by case basis using criteria such as floodplain, topography, vegetative cover, canopy cover, and soil types, etc.

(e) Channel Protection

To protect stream channels from degradation, a specific channel protection criterion shall be provided as prescribed in the latest edition of Rainwater and Land Development.

(f) Temporary Stabilization of Disturbed Areas and Soil Stockpiles

(1) ~~A temporary vegetative cover~~Soil stabilization shall be initiated on disturbed areas as specified in Table 1 below.

Table 1: Temporary Stabilization

Area requiring temporary stabilization	Time frame to apply erosion controls
Any disturbed area within 50 feet of a stream and not at final grade.	Within 2 days of the most recent disturbance if that area will remain idle for more than 21 days.
For all construction activities, any disturbed area, including soil stockpiles, that will be dormant for more than 21 days, and not within 50 feet of a stream	Within 7 days of the most recent disturbance within the area.
Disturbed areas that will be idle over winter.	Prior to onset of winter weather.

(2) Application practices include vegetative establishment, mulching, wood chips, matting, erosion blankets and the early application of gravel base on areas to be paved. Soil stabilization measures should be appropriate for the time of year, site conditions and estimated time of use.

(3) Topsoil removed shall be stored on site and shall be stabilized with quick growing plants or other means, so that it is protected from wind and water erosion. Topsoil shall be maintained in a usable condition for sustaining vegetation and reused on the site.

(g) Permanent Stabilization

(1) A permanent vegetative cover shall be initiated on disturbed areas as specified in Table 2 below.

Table 2: Permanent Stabilization

Area requiring permanent stabilization	Time frame to apply erosion controls
Any area that will lie dormant for 12 months or more.	Within 7 days of the most recent disturbance.
Any area at final grade.	Within 7 days of reaching final grade within that area.
Any area within 50 feet of a stream and at final grade	Within 2 days of reaching final grade

(2) Permanent vegetation shall not be considered established until a ground cover is achieved which is mature enough to control soil erosion and will survive severe weather conditions.

(h) Cut and Fill Slopes

Cut and fill slopes shall be designed, constructed and stabilized in a manner which will minimize erosion. Consideration should be given to the length and

steepness of the slope, the soil type, upslope drainage area, groundwater conditions, and other applicable factors. If, after final grading, excessive erosion takes place, additional slope stabilizing measures by the owner, developer, or builder will be required until the problem is corrected. The following guidelines are provided to aid in developing an adequate design.

(1) Roughened soil surfaces are generally preferred to smooth surfaces on slopes.

(2) Diversions should be constructed at the top of long steep slopes which have significant drainage areas above the slope. Diversions or terraces may also be used to reduce slope length.

(3) Concentrated storm water should not be allowed to flow down cut or fill slopes unless contained within an adequate channel, flume, or slope drain structure.

(4) Wherever a slope face crosses a water seepage plane which endangers the stability of the slope, adequate drainage or other protection should be provided.

(i) Protection of Adjacent Properties/Public Right-of-Ways

Properties, public right-of-ways, and thoroughfares adjacent to the site of an earth disturbing activity shall be protected from sediment deposition. This may be accomplished by preserving a well-vegetated buffer at the perimeter of the site, by installing perimeter controls such as sediment barriers, filters, silt fences, dikes, sediment basins, or by a combination of such measures. Gravel parking and maneuvering areas will be provided for vehicles which must enter and leave the construction site. All streets will be protected whether final acceptance for the street has been granted or not. Streets adjacent to construction activities shall be adequately swept before 4:00 PM on a work day.

(j) Sediment Control Structures

(1) Sediment control structures shall be used to trap sediment on a site remaining disturbed for more than 14 days. Such structures may include, but are not limited to, silt fences, storm drain inlet protection, sediment basins and diversions or channels which direct runoff to a sediment basin. All sediment control practices must be capable of ponding runoff in order to be considered functional.

(2) Sediment control structures shall be constructed as a first step in grading and be made functional before upslope earth disturbing activities take place. Earthen structures such as dams, dikes, and diversions shall be seeded and mulched as soon as the installation is complete. Sediment control structures shall be functional throughout the course of earth disturbing activity and until the site is stabilized with permanent vegetation. Settling basins for watersheds of less than 5 acres shall include a storage zone of at least 1000 CF per contributory acre and a dewatering zone comprised of at least 67 CY per acre. The dewatering zone shall be no more than 5 feet deep and have a drawdown time of at least 48 hrs. Once the watershed is fully reclaimed, ponds shall be converted to detention facilities as applicable.

(3) Sheet flow runoff from the site shall be intercepted by silt fence or diversions. Silt fence shall be placed on a level contour and shall be capable of temporarily ponding runoff. The relationship between the maximum drainage area to silt fence for a particular slope range is shown in Table 3 below.

Table 3: Maximum Drainage Area to Silt Fence

Maximum drainage area (in acres) to 100 linear feet of silt fence	Range of slope for a particular drainage area (percent)
0.5	<2%
0.25	≥ 2% but < 20%
0.125	≥ 20% but < 50%

(4) Storm water diversion devices shall be used to keep runoff away from disturbed areas and steep slopes

(5) Whenever storm water detention is required the stormwater runoff from the site shall pass through a sediment basin or other suitable sediment trapping facility before discharge to a receiving water body. The City Engineer may require sediment basins or traps for smaller disturbed areas where deemed necessary.

(k) Stabilization of Waterways and Outlets

All on-site storm water conveyance channels shall be designed and constructed to withstand the expected velocity of flow without erosion. Methods adequate to prevent erosion shall also be provided at the outlets of all pipes and paved channels.

(l) Storm Sewer Inlet Protection

All storm sewer inlets shall be protected so that sediment-laden water will not enter the conveyance system without first being filtered or otherwise treated to reduce sediment loading.

(m) Working In or Crossing Watercourses

(1) All activities shall be kept out of watercourses to the extent possible. Where in-channel work is necessary, precautions shall be taken to stabilize the work area during construction to minimize erosion. The channel (including bed and banks) shall be restored to its original cross-section and all disturbed area stabilized immediately after in-channel work is completed.

(2) Where a watercourse will be crossed regularly during construction, a temporary stream crossing shall be provided, used for the shortest period practical, removed following site construction, and restored as described in Section 1476.03m(1) above.

(n) Maintenance and Removal of Temporary Measures

(1) All temporary erosion and sediment control practices shall be maintained and repaired to assure continued performance.

(2) All temporary erosion and sediment control measures shall be removed within thirty (30) days after final site stabilization is achieved or after the temporary measures are no longer needed. Trapped sediment and other disturbed soil areas resulting from the removal of temporary measures shall have the final grade established and be permanently stabilized to prevent further erosion and sedimentation.

(o) Control of Construction Site Debris and Wastes

All owners, applicants, contractors, and developers shall control wastes such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste on construction sites and shall keep streets and gutters clear of all sediment and debris from the site.

(p) Use, Safety, and Maintenance of Stormwater Practices

(1) Storm water management practices shall be designed for the ultimate use of the site and function safely and with minimal maintenance.

(2) If an inspection reveals that a control practice is in need of repair or maintenance, with the exception of a sediment settling pond, it must be repaired or maintained within three days of the inspection. Sediment settling ponds must be repaired or maintained within 10 days of the inspection.

1476.04 SITE DEVELOPMENT PLAN

(a) Any person seeking approval of land development proposals for use types listed in Section 1476.02(c) shall develop and submit a Site Development Plan as detailed in this section unless exempted by section 1476.02(g).

(b) Site Development Plan Requirements

(1) Each applicant shall provide information that details the location of the area proposed for development, the site in relation to its general surroundings, predevelopment site conditions, existing characteristics of the site, and the extent of proposed earth disturbing activities. At a minimum, the plan shall include the following elements:

(a) General location map prepared from a 2,000 scale (one-inch = 2,000 feet) USGS topographic base map that shows the area proposed for development and pertinent adjacent areas and features.

(b) A description of the nature and type of the earth disturbing/construction activity (e.g. residential, commercial, highway, etc.)

(c) A photocopy of the appropriate soil survey sheet found in the USDA Soil Survey of (Name of County) County with location of site identified.

(d) A Site Plan Map that shows the location of existing features and proposed improvements on the site including:

- 1) Total area of the site and the area of the site that is expected to be disturbed (i.e. grubbing, cleaning, excavation, filling or grading, including off-site borrow areas).
- 2) Surface water locations, including springs, wetlands, streams, lakes, water wells, etc., on or within 200 feet of the site, including the boundaries of wetlands or stream channels and first subsequent named receiving water(s) the permittee intends to fill or relocate for which the permittee is seeking approval from the Army Corps of Engineers and/or Ohio EPA.
- 3) The general directions of surface water flow and 100-year floodplain when applicable.
- 4) All improvements, including buildings, retaining walls, sidewalks, streets, parking lots, driveways, utilities and stormwater basins, drainage impoundments, channels and outlets, etc.

(e) An estimate of the impervious area and percent imperviousness created by the project.

(c) Site Development Plan Submission, Review and Action.

(1) Submission of a Site Development Plan by an applicant seeking approval initiates the review process.

(2) Following review the City Engineer shall:

(a) approve the Site Development Plan; or

(b) require submission of additional information pursuant to requirements, and

(c) require the submission of a Stormwater Management Plan (SMP) for activities listed in 1476.02(f) unless exempted by provisions of section 1476.02(g).

1476.05 STORMWATER MANAGEMENT PLAN (SMP) REQUIREMENTS

(a) Storm Water Management Plans (SMPs) are intended to provide information on all soil erosion and runoff control activities and Best Management Practices (BMPs) to be used and incorporated on the site both during and after site development. This information includes, but is not limited to, site grading, stormwater management facilities and practices, erosion and runoff control information, maintenance plans, and other measures that focus on managing the effects of earth disturbing activities that occur as a result of site development.

(b) Each SMP shall provide site designs that meet the Performance Standards presented in Section 1476.03 and provide practical treatment for both water quality and

rate of runoff for storm water from the site as appropriate.

(c) In general, SMPs need to address:

(1) Erosion and Sediment Control. Providing measures to insure that earth disturbing activities at the site during and after development will be managed in a manner that will not result in increased erosion and sedimentation from the site resulting in impacts to water quality and that meet the Performance Standards specified in Section 1476.03.

(2) Runoff Control. Providing measures to insure that the peak rate of surface water runoff from the development site during and after construction will meet standards given in section 1476.05h(1)b.

(d) The SMP shall specifically include all the following:

(1) The minimum elements required in the Site Development Plan described in Section 1476.04(b)1

(2) The contents of the *Storm Water Pollution Prevention Plan (SWP3)* required by the most recent version of Ohio EPA's NPDES Construction Activity Permit ~~#OHC000002~~. The contents of the Ohio EPA's SWP3 include, but are not limited to the following. Any additional items are specific requirements of the City of Vandalia:

(a) A description of prior land uses at the site; ~~with-~~ a description of non-structural BMPs such as methods to protect existing wetlands, increase open space, minimize disturbance and protect existing vegetation, and protect water ways.

(b) Existing data describing the soils on the site and, if available, the quality of any discharge from the site.

(c) A determination of runoff coefficients for both the pre-construction and post construction site conditions.

(d) For all large earth-disturbing activities (involving the disturbance of five or more acres of land or less than five acres, but part of a larger common plan of development or sale which will disturb five or more acres of land), a description of post construction BMP(s) chosen and designed to detain and treat a water quality volume (WQv) equivalent to the volume of a 0.75-inch rainfall (See most recent version of the Ohio EPA Construction Activity Permit for methodology). Water treatment must be accomplished utilizing a sediment pond for watersheds greater than 10 acres including offsite areas disturbed or undisturbed. Sediment storage is in addition to the treated WQv and shall be a minimum of ~~67 CY per watershed acre~~ 20% of the WQv. At least half of the sediment storage shall be shared by forebays and micropools.

(e) For all small earth-disturbing activities (which disturb one or more, but less than five acres of land and is not a part of a larger common plan of development or sale which will disturb five or more acres of land), a description

of measures that will be installed during the development process to control pollutants in storm water discharges that will occur after construction operations have been completed. Applicable items include wet ponds, extended detention outlet structures, filtration practices such as grassed swales, bio-retention cells, sand filters and filter strips. Also included are infiltration basins and trenches.

(f) An implementation schedule which describes the sequence of major construction operations (i.e., grubbing, excavating, grading, utilities and infrastructure installation) and the implementation of erosion, sediment and storm water management practices or facilities to be employed during each operation of the sequence.

(g) For subdivided developments where the SWP3 does not call for a centralized-regional sediment control capable of controlling multiple individual lots, a detail drawing of a typical individual lot showing standard individual lot erosion and sediment control practices.

(h) A detailed description of the stormwater controls to be incorporated and how these meet or exceed the appropriate Performance Standards presented in Section 1476.03. This shall include the identification of which entity (developer, contractor, owner) is responsible for implementation of each individual control (e.g., contractor A will clear land and install perimeter controls and contractor B will maintain perimeter controls until final stabilization).

(i) A detailed maintenance plan that describes procedures (e.g. inspections) needed to ensure the continued performance of control practices. Such plans must ensure that pollutants collected within structural post-construction practices, be disposed of in accordance with local, state, and federal regulations.

(j) A Site Map that includes:

- 1) Limits of earth-disturbing activity of the site including associated off-site borrow or spoil areas.
- 2) Soil types on the site, including locations of unstable or highly erodible soils.
- 3) Existing and proposed contours. A delineation of drainage watersheds expected during and after major grading activities as well as the size of each drainage watershed, in acres.
- 4) Existing and planned locations of buildings, roads, parking facilities and utilities.
- 5) The location of all erosion and sediment control devices and implements, including areas likely to require temporary stabilization during site development.
- 6) Sediment and storm water management basins noting their sediment settling volume and contributing drainage area.

- 7) Permanent storm water management devices and implements to be used to control flow rates of storm water after construction operations have been completed and the watershed is reclaimed.
- 8) Areas designated for the storage or disposal of solid, sanitary, and toxic wastes, including dumpster areas, cement truck washout areas, and vehicle fueling and maintenance.
- 9) The location of designated construction entrances where vehicles will access the site.
- 10) The location of any in-stream activities, including stream crossings.

(e) Proof of authorization and conformance with other applicable local, state, and federal requirements. Copies of pertinent Notices of Intent (NOI), permits, public notices and letters of authorization must be included with SMP submissions. These may include, but are not limited to, Ohio EPA NPDES Permits authorizing storm water discharges associated with construction activity, Ohio EPA Phase II Stormwater Permits, Section 401 and 404 Clean Water Act Permits, Ohio EPA Isolated Wetland Permit, and Ohio Dam Safety Law Permits.

(f) Supplemental requirements as provided in Section 1476.05(h).

(g) Critical Areas

Storm water discharge to critical areas with sensitive resources (i.e. wetlands, steep slopes, scenic river designation, recharge areas, etc.) may be subject to additional criteria, or may need to utilize or restrict certain stormwater practices.

(h) Supplemental Requirements

(1) Determination of Post Development Runoff

(a) Each SMP shall include an evaluation of pre-development conditions together with during, and post-development impacts that quantifies the volume and rate of runoff from the site by subdrainage areas. This evaluation shall be prepared according to methods prescribed in the latest edition of Rainwater and Land Development or other appropriate sources. The evaluation shall:

- 1) Show delineation and sequence of subdrainage units which comprise the area proposed for development.
- 2) Indicate the hydraulic length of slope per individual subdrainage unit and the length of the natural or manmade watercourse which accommodates the surface runoff from each subdrainage unit.
- 3) Indicate within the legend the average percent slope, erosion factor (K) and runoff curve number (CN) per individual subdrainage unit for a 24-hour storm of a one-year frequency.
- 4) Include a hydrograph for a 24-hour storm of the critical frequency to be controlled as determined according to Section 1476.05h(1)(c) and all calculations made pertinent to evaluating the effects of the proposed development on the pre-development runoff conditions of the site.

(b) Calculations for the design of stormwater management facilities shall demonstrate the following for each subdrainage unit:

(1) The peak rate of runoff from the developed watershed with respect to the Critical Storm and all more frequent storms occurring on the site does not exceed the peak rate of runoff from a one (1) year frequency, twenty-four (24) hour storm occurring on the same site under pre-development conditions.

(2) Storms of less frequent occurrence than the Critical Storm, up to the 100 year storm shall have its peak runoff rates no greater than the peak runoff rates from equivalent storms under pre-development conditions. Consideration of the 1, 2, 5, 10, 25, 50, and 100 year storms in design and construction will be considered meeting this standard.

(c) Calculation of a critical storm for each watershed having an offsite outfall shall be determined as follows:

(1) Calculate by appropriate hydrologic methods, such as the SCS Technical Release 55² or other method approved by the City Engineer (rational method is not acceptable), the total volume of runoff from a one year frequency, 24-hour storm occurring on the development area before, and after development. The Vandalia City Engineer shall approve or reject any calculation method based on its technical validity for the given situation.

(2) From the volumes determined in 1) above, determine the percentage increase in volume of runoff due to the proposed development, and using this percentage, select the 24-hour critical storm from this table:

If the percentage of increase in volume of runoff is (see chart below):

<i>% Equal To or Greater Than</i>	<i>% Less Than</i>	<i>The Critical Storm for Peak Rate Control</i>
-	10	1 year
10	20	2 years
20	50	5 years
50	100	10 years
100	250	25 years
250	500	50 years
500	-	100 years

² Urban Hydrology for Small Watersheds, Technical Release 55. 1986. Natural Resources Conservation Service.

(2) Off-Site Storm water Control Facilities

(a) Exceptions to requiring permanent on-site runoff control on the site may be considered by the City of Vandalia provided the applicant can prove to the satisfaction of the City Engineer that:

- 1) The intent and standards of this ordinance for runoff control can be best achieved by the utilization of off-site stormwater control facilities.
- 2) Runoff from the site can be conveyed to off-site stormwater facilities in a manner and by means which satisfies or surpasses the standards of this Ordinance
- 3) The applicant has ownership of or the right to use the off-site facility in question and applicable construction and maintenance easements are acquired and recorded.

(3) Pond Design Standards

Where sedimentation and/or runoff are to be controlled utilizing a pond, the following standards shall be observed.

- a) Earthen embankment fill material shall be clay. The embankment shall be keyed into the surrounding banks and channel bottom to a minimum depth of 18".
- b) Open channel emergency spillways shall be cut into original material and not allowed in embankment fill.
- c) Design shall include the removal of all trees within the impoundment area.
- d) Paved flow channels in detention ponds shall be provided between inlet and outlet pipes. The minimum slope from the outlet pipe to any point in the pond shall be 1%. Alternatively, underdrains could also be utilized to assure drainage and allow mowing and other maintenance activities. In ponds for large developments which include forebays and micropools, flow channels are not required. Underdrains in this case, however are strongly encouraged unless physical site limitations prohibit them.

(4) As Built Certification

Prior to release of the performance bond, a registered surveyor shall certify that the pond has been constructed to achieve design volumes at critical depths as dictated by the design calculations and to the satisfaction of the City Engineer.

1476.06 COMPLIANCE RESPONSIBILITY

(a) Performance Liability

- (1) No provision of this ordinance shall limit, increase or otherwise affect the liabilities of the applicant nor impose any liability upon City of Vandalia not otherwise imposed by law.

(b) No Release from Other Requirements

(1) No condition of this permit shall release the applicant from any responsibility or requirements under other federal, state, or local environmental regulations. If requirements vary, the most restrictive requirement shall prevail.

(c) Proceeding with Activity

(1) Soil-disturbing activities regulated under this regulation shall not begin until all necessary state and federal permits and appropriate approvals of Site Development Plans or Stormwater Management Plans have been granted to the site owner/applicant.

(d) Performance Responsibility

(1) The applicant is responsible for carrying out all provisions of the approved Site Development Plan or SMP and for meeting all the standards and requirements of this regulation.

(e) Enforcement

(1) All development sites are subject to inspections by the City of Vandalia engineer to ensure compliance with the approved Site Development Plan or SMP.

(2) If it is found that the operations are being conducted in violation of the approved Site Development Plan and Storm water Management Plan, remedial actions and a time frame for compliance will be defined by the City Engineer. If compliance is not gained, a stop-work order may be issued until the identified violations cease.

(3) After the issuance of a stop-work order provided for in Section (b) above, but before the imposition of any fines, the applicant shall have the opportunity to request a hearing before the City of Vandalia Engineer to show cause why work should not be stopped. A hearing shall be scheduled at the time that a request for such a hearing is made to the City of Vandalia Engineer.

(4) Following the issuance of a stop-work order, the City of Vandalia engineer shall determine if and when the development may proceed. Any determination by the City Engineer pursuant to this section is a final order for purposes of judicial review.

(f) Penalties Subsequent To Issuance Of Stop-Work Order.

(1) Subsequent to the issuance of a stop-work order, one or more of the following penalties may be imposed.

(a) If the earth disturbing activity involves a subdivision, the applicable penalties (including fines) provided for in the subdivision regulations of the City of Vandalia shall apply.

(b) The City Engineer may request the legal representative of the City of Vandalia to seek an injunction or other appropriate relief to abate excessive erosion or sedimentation and secure compliance with this Ordinance. In granting such relief, the court may order the construction of sediment control improvements and/or the implementation of other control measures and/or fines as identified in Section 1476.06(j) or any other relief the court determines.

(g) Internal Inspections

(1) All controls on the site shall be inspected by the owner or his representative at least once every seven calendar days and within 24 hours after any storm event greater than one-half inch of rain per 24 hour period. The site owner and/or applicant shall assign qualified inspection personnel experienced in the installation and maintenance of erosion and runoff controls to conduct these inspections to ensure that all stormwater control practices are functional, that all provisions of the SMP and this regulation are being met, and whether additional control measures are required.

(2) The site owner shall maintain for three (3) years following the final stabilization of the site a record summarizing inspections, names(s) and qualifications of personnel making the inspections, the date(s) of inspections, major observations relating to the implementation of the SMP and a certification as to whether the site is in compliance with the SMP and identify any incidents of non-compliance.

(h) Ownership and Maintenance of Stormwater Facilities during and after construction

(1) In cases where stormwater control facilities are constructed on single private properties, all current and subsequent owners of the land shall be required to maintain said facilities to the satisfaction of the City Engineer.

(2) In the case of subdivisions, inspection and maintenance requirements shall be as recorded by plat binding maintenance responsibilities to the owner of property on which the facility is located or to a homeowner's association.

(3) All inspection and maintenance restrictions shall do the following:

(a) Designate the party(ies) responsible for the maintenance of all stormwater management facilities including repair of eroded areas, removal of trees within the impoundment area, mowing, landscaping, debris pick-up, and to ensure all inlet and outlet structures are free of obstructions and in good repair.

(b) For subdivisions, unless otherwise approved by the City of Vandalia Engineer, storm water management facilities shall be an entity of common ownership (e.g. Land/Homeowner's Association) within the proposed subdivision. Each parcel sold in the proposed subdivision shall require continued membership in the Land/Homeowners Association.

(c) Prohibit unauthorized alterations of all stormwater management facilities.

(d) Provide adequate access to all stormwater management facilities for inspection by the City of Vandalia engineer and corrective actions by the owner.

(4) All storm water management facility easements shall be on the final plat, prior to approval by the City of Vandalia, and a reference shall be made to the entity or individual(s) responsible for their maintenance.

(5) The owner/developer shall submit two (2) sets of as-builts of all stormwater facilities and improvements to the City of Vandalia.

(6) The following conditions shall apply to all drainage easements:

(a) Easements shall be approved by the City Engineer prior to approval of the final plat and shall be recorded with said plat.

(b) Unless otherwise required by the City Engineer drainage easements shall be no less than twenty (20) feet wide, plus the width of the stormwater facility(ies).

(c) Unless otherwise approved by the City Engineer, stormwater management facilities, including basin, ponds or other retention/detention devices and implements, shall be on separate lots held and maintained by an entity of common ownership (Land/Homeowners Association).

(d) Those lots that contain and/or are crossed by a drainage easement shall have the following restriction – “Any lot area reserved for drainage purposes shall at all times be kept free of any obstructions to the flow of water. No improvements or modifications within the identified drainage easement area will be allowed without the approval of the City of Vandalia Engineer. Maintenance of the drainage easement area, stormwater control facility(ies), and ditches shall be the responsibility of the owner(s) of the lot on which these facilities and/or ditches are located. In the event that proper maintenance is not performed, the City of Vandalia shall have the right to cause such maintenance activities and access the responsible party for all costs.” Alternatively, a Homeowner’s Association or similar organization could be given the responsibility of maintenance in lieu of the property owners.

(i) Violations

(1) No person shall violate or cause or knowingly permit to be violated any of the provisions of this Ordinance, or fail to comply with any of its provisions or with any lawful requirements of any public authority made pursuant to it, or knowingly use or cause or permit the use of any lands in violation of this ordinance or in violation of any approval permit granted under this Ordinance.

(j) Penalties

(1) Violation of any provision of this or any amendment or supplement thereto, or failure to comply with any of the requirements herein shall constitute a misdemeanor.

Any person or persons violating any of the provisions herein shall upon conviction be fined not less than twenty five (25) dollars nor more than one hundred (100) dollars or imprisoned for not more than thirty (30) days, or both and in addition shall pay all costs and expenses involved in the case. Each day such a violation continues shall be considered a separate offense.

(2) Upon notice from the City of Vandalia that work is being done contrary to this Ordinance, such work shall immediately stop. Such notice shall be in writing and shall be given to the applicant, and shall state the conditions under which such work may resume; provided, however, in instances where immediate action is deemed necessary for the public safety or the public interest, the City of Vandalia authorized agent may require that work be stopped upon verbal order pending issuance of the written order.

(3) The imposition of any other penalties provided herein shall not preclude the City of Vandalia, by or through its Law Director and/or any of its assistants, from instituting an appropriate action or proceeding in a Court of proper jurisdiction to prevent an unlawful development, or to restrain, correct, or abate a violation, or to require compliance with the provisions of this regulation or other applicable laws, ordinances, rules, or regulations, or the orders of the City Engineer.